<table>
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<tr>
<th>S. No.</th>
<th>Application No. / Status</th>
<th>Title</th>
<th>Inventors</th>
<th>Abstract</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1829/CHE/2006, dated 3.10.2006; Publication Date: 28/11/2008, Journal No.: 48/2008, page 29006</td>
<td>Method for preparing spray dried sugarcane juice</td>
<td>K. Hari K. Sivaraman S. Asokan</td>
<td>Process for preparation of spray dried sugarcane juice powder/granules is disclosed which is devoid of preservatives, colourants, anticaking, stabilizers and other chemicals which are harmful to health, as a natural health drink for ready to use.</td>
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<td>2</td>
<td>1830/CHE/2006 dated 3.10.2006 Publication Date: 28/11/2008, Journal No.: 48/2008, page 29009</td>
<td>SBI Water Trap</td>
<td>N. Mukunthan B. Singaravelu</td>
<td>&quot;SBI&quot; water trap-I is an economical and user friendly water trap for mass trapping of moths with pheromone lures. It has three components, viz., the bowl, dispenser holder and stem. The bowl shape maintains surface area despite evaporation of 2 lit. Water out of the total 2.6 lits. Double dispenser holder enables collection of two different pests in one and the same trap. Standing cane is used as the support system and so user friendly and the critical trap height can be maintained with out additional input as the crop grows.</td>
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<td>3</td>
<td>658/CHE/2008 Dated 17.3.2008 Publication Date: 25/09/2009, Journal No.: 39/2009, page 5878</td>
<td>In situ rearing of the tachinid parasitoid Sturmiopsis inferens on diet reared sugarcane shoot borer</td>
<td>J. Srikanth, K.P. Salin, R. Nirmala, Y.S. Goud and G. Santhalakshmi</td>
<td>An in situ inoculation and rearing method for the multiplication of Sturmiopsis inferens, a tachinid parasitoid of sugarcane early shoot borer Chilo infuscatellus and stalk borer Chilo auricilius, has been developed as an alternative to the earlier Scaramuzza's or King's methods. The host culture is first established on artificial diet in small glass vials (5 cm height and 2 cm diameter) using a method standardized earlier (patent pending from the Institute). Gravid female flies of the parasitoid are dissected 10-12 days after mating and maggots are released from uterus in to an embryo cup containing 1 ml of 0.15% agar gel After removing remnants of uterus, the volume of agar gel is made up to 3 ml and the maggots are dispersed in the gel.</td>
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The agar-maggot suspension is transferred to micro-centrifuge tubes for inoculation of diet vials containing two numbers each of 15 day old host larvae. The cotton plug of diet vial is removed, 100 µl (micro liter) of agar-maggot suspension dispensed using a micro-pipette with suitable sterile tip and cotton plug tightly closed. Inoculated vials are placed in trays and loosely covered with a black cloth. The vials are examined one week later for formation of parasitoid puparia. At the end of the second week, puparia are recovered from vials by removing the diet and frass around them with a pair of blunt forceps. The puparia are surface sterilized with 0.1% sodium hypochlorite, washed in sterile distilled water, dried on coarse filter paper or tissue paper and placed in wooden cages for adult emergence.

A method of plant tissue culture, which comprises of culturing plant tissues in a medium inoculated with live cells of *Azospirillum* spp. and/or *Methylobacterium* spp. Described a method of inoculating *Azospirillum* spp. and/or *Methylobacterium* spp. in the tissue culture medium for effectively improving shoot multiplication and elongation of sugarcane shoots without any deleterious effect. Composition, preparation and use of a new and improved tissue culture medium, SBI TC medium, are described. Use of SBI TC medium and modified SBI TC medium with reduced quantities of nitrogen salts and plant hormones, for sugarcane in-vitro micropropagation along with *Azospirillum* spp. and *Methylobacterium* spp. to get faster shoot multiplication rate, higher shoots/bottle, longer shoots, thicker and greener shoots are described. This tissue culture method substantially reduces the cost of medium employed, improves the quality of tissue culture plants and shortens the time taken for obtaining tissue cultured plants.

The invention is related to a novel and simple method of shoot apex culture in sugarcane, which prevents the phenolic excretion from the cut end of the shoot apex and accelerates effective growth of axillary buds during in vitro shoot multiplication. This improved method carrying out the steps of a simple surface sterilization and excision of shoot apex, a simple and modified method of inoculation to prevent phenol pollution and induction of axillary bud sprouting from the shoot apex in
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<td>6</td>
<td>2685/CHE/2010, Dated: 14/09/2010</td>
<td>Yet to be published.</td>
<td>K. Hari, D. Puthira Prathap, K. Sivaraman, P. Rakkiyappan, B. Singaravelu, A. Ramesh Sundar, P. Murali</td>
<td>Soil Moisture Indicator is a device for assessing the soil moisture level in fields / potted plants. This device has single or double metallic rod/s; when inserted into soil, the soil moisture status is indicated more objectively by any one of the ten light emitting diodes (LEDs) or lamps. This device will be useful in assessing the soil moisture status in different spots of the field or in pots and accordingly the user can plan for irrigation / watering. This unit is a novel soil moisture indicator for its versatility viz., objective indication, ease of handling, sturdy, low cost, and suitable for field use.</td>
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<td>7</td>
<td>3421/CHE/2010 Date of application 15/11/2010</td>
<td>Yet to be published.</td>
<td>N. Subramoniam, Philip Anna Purushothaman, Syamaladevi Divya</td>
<td>The present invention provides the nucleotide sequence of a promoter isolated from <em>Porteresia coarctata</em>, wherein the promoter is capable of directing high level constitutive expression of an operably linked target nucleotide sequence of interest in plant, plant cells or tissue thereof. The invention also provides a recombinant DNA construct, recombinant vector and a recombinant host cell comprising the promoter directing constitutive expression of the operably linked target nucleotide sequence in the plant, plant cell or tissue thereof. The present invention further provides a method of producing a transgenic plant comprising the promoter directing high level constitutive expression of an operably linked target nucleotide sequence of interest in plant, plant cells or tissue thereof.</td>
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<td>8</td>
<td>771/CHE/2011 Date of application 14/03/2010</td>
<td>Yet to be published.</td>
<td>N.Vijayan Nair, P. Govindaraj, S. Jacob Kalaiselvan, Annamalai Ravindra Naik</td>
<td>This invention relates with the development of an Elevated Hybridisation Runway (EHR) structure for crossing sugarcane during the hybridisation programme by scientists of Sugarcane Breeding Institute, Coimbatore and Central Institute of Agricultural Engineering – Regional centre, Coimbatore. Elevated Hybridisation Runway structure, comprises of vertically extending H shaped steel stanchion or pipes; two levels of standing platform member attached to the main support member and extending runway structure platform at two levels generally perpendicularly, a diagonal brace member extending at an</td>
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angle between the main support member and the platform member and connected at each end by means of hook attached to the platform member for limiting motion for a plank member supported on the platform member. A guard rail system is running along the scaffold structure at second working level. The platform member is attached to the main support member by means of a clamp. A set of ladder is provided to reach to the different levels of Elevated Hybridisation Runway structure. Scientists can complete all the crosses to be carried out in different rows without getting down every time since all the rows are interconnected enabling saving in time and manpower when compared to the conventional methods. The new design will facilitate large number of pollination in shorter time without losing viability of pollens which have short life period. The design is ergonomic in nature keeping the safety of operator in mind.

| 9 | 1309/CHE/2011  
Dated 15-04-2011  
Yet to be published. | Process for preparation of sugarcane juice powder | K. Hari  
K. Sivaraman |
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<td>A process for making different grades / qualities of sugarcane juice powder by spray-drying is disclosed. The process discloses addition of individually or in different combinations of the following agents - bulking agents - commercial cane sugar, cellulose, mannitol, sucrose, lactose, gum acacia, gelatinized starch, soluble starch, jaggery / gur and maltodextrin, flavourants - spices like ginger, cardamom, mint, black pepper, turmeric, clove, cinnamon, vanilla and others, citrus and other fruity flavours, cocoa/coffee/tea extracts, antioxidants, colourants, anti caking agents and other substances, to sugarcane juice to obtain fine powder to granule form of sugarcane juice powder with variants differing in quality, taste, flavour and colour. This sugarcane juice powder has all the natural qualities of sugarcane juice and has the convenience of storage. This sugarcane juice powder is useful as instant sugarcane juice, sweetening agent and flavour enhancer for regular use, beverages, conventional sweets, confectioneries, bakery items, dairy products, weaning food, novel foods and medicinal / pharmaceutical preparations.</td>
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PHOTOS RELEVANT TO PATENTS

Spray dried sugarcane juice

SBI Water Trap
Improved method of sugarcane micropropagation using *Azospirillum* and *Methylobacterium*.

Novel method of inoculation to prevent phenol pollution.
Soil moisture indicator (Prototype)

SMI indicating low soil moisture

SMI indicating sufficient soil moisture

SMI indicating high soil moisture

SMI prototype

SMI being tested by the user

SMI being tested in field condition
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</thead>
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| 3 | 231434 | K. Hari  
D. Puthira Prathap  
K. Sivaraman  
P. Rakkiyappan  
B. Singaravelu  
A. Ramesh Sundar  
P. Murali |
| 4 | 231435 | SOIL MOISTURE INDICATOR  
K. Hari  
D. Puthira Prathap  
K. Sivaraman  
P. Rakkiyappan  
B. Singaravelu  
A. Ramesh Sundar  
P. Murali |
SUGARCANE ELEVATED HYBRIDISATION RUNWAY

N. Vijayan Nair
P. Govindaraj
S. Jacob
Kalaiselvan
Annamalai
Ravindra Naik

FRONT VIEW

BIRD'S EYE VIEW